

[METHOD FOR FABRICATING PIEZOELECTRIC WORKPIECE WITH AUGMENTING SURFACE ELECTRODE]

Abstract

A method for fabricating piezoelectric workpieces with augmenting surface electrodes is disclosed for improving fabrication and operation reliability of the workpieces. The fabrication method forms a plurality of function electrodes on the surface of the body of the workpiece and the function electrodes being connected in the electric circuit of the piezoelectric system. At least one of the function electrodes has a shape with a contour of at least one acute angle. At least one polarization augmenting electrode is then formed on the surface of the body proximate to the acute angle, the polarization augmenting electrode and the proximate function electrode thereof constituting a gross electrode when connected electrically together. Electric dipoles of grain molecules of the body are then polarized utilizing the gross electrode, the gross electrode substantially cancel the acute angle when paired with one of the function electrodes and connected to a polarization voltage for implementing the polarization. The polarization

voltage polarizes electric dipoles of grain molecules of the body in between the pair so that the boundary region between different polarization orientation distribution regions within the piezoelectric workpiece is smoothed without any acute angle.